

Role of Probiotics in Disease Prevention (Part II)

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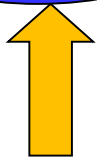
Banaras Hindu University, Varanasi

Case Study

Bifidobacterium



**Crohn's
Disease**



Lactobacillus

Ten active Crohn's outpatients took probiotics containing *Bifidobacterium* and *Lactobacillus* for four months.

By the end of therapy, seven patients had improved clinical symptoms after combined probiotics and prebiotic therapy

Six patients had a complete response.

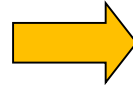
(Fujimori et al. 2007)

Ulcerative colitis

- ✓ The probiotic strain *E. coli* Nissle strain may be equivalent to Mesalazine in maintaining remission of ulcerative colitis
- ✓ Probiotics have shown efficacy to induce and maintain remission in children and adults with mild-to-moderate ulcerative colitis

Case Study

*Lactobacillus
acidophilus*



Ulcerative Colitis

187 ulcerative colitis patients were randomized to receive *L. acidophilus* (65 patients), mesalazine alone (60 patients), or *L. acidophilus* with mesalazine (62 patients)

After 12 months, treatment with *L. acidophilus* was more effective than standard treatment with mesalazine in prolonging the relapse-free time.

(Zocco et al., 2006)

Probiotics & Irritable Bowel Syndrome

Probiotics

- Reduction of intestinal gas production
- Modulation of gut microbiota

Beneficial in Irritable Bowel Syndrome

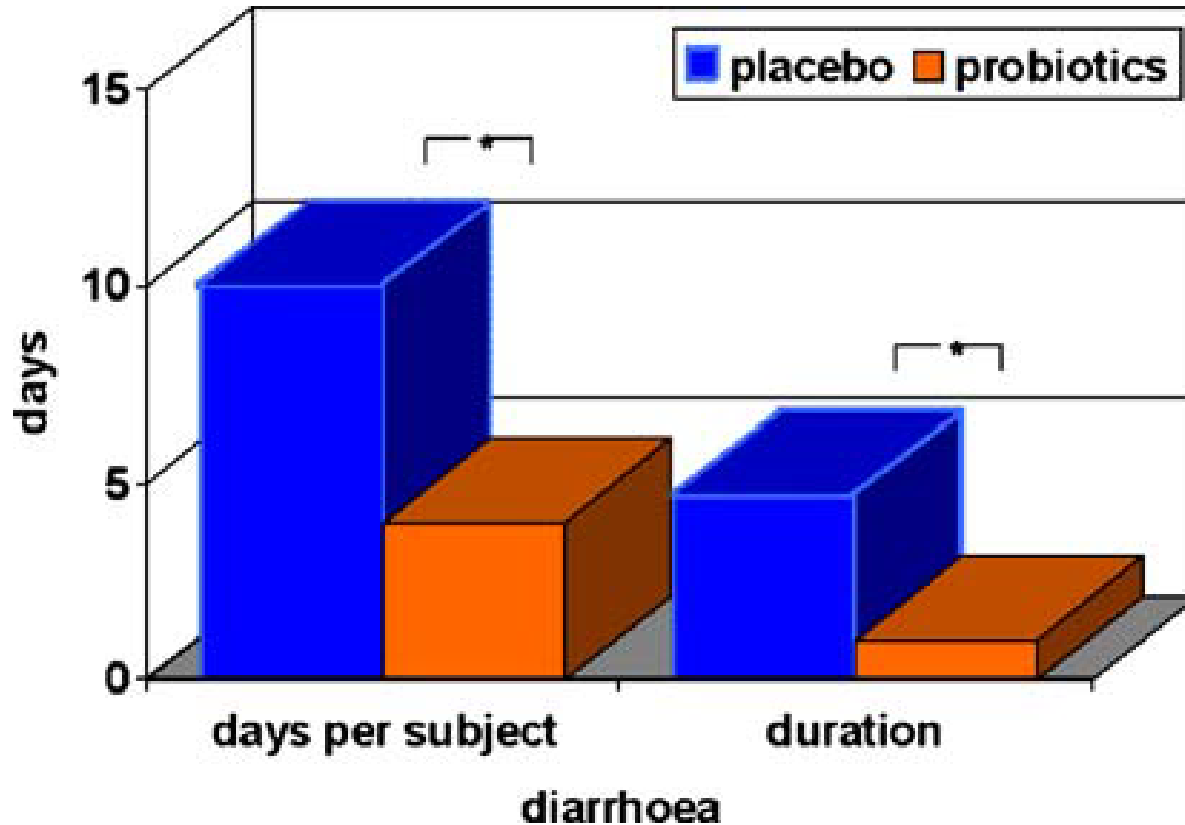
Probiotics & Helicobacter pylori Infection

- Production of antimicrobial substances
- Stimulation of the mucus secretion
- Competition for adhesion sites
- Stimulation of specific and non-specific immune responses



Prevention of *Helicobacter pylori* infection

Case Study



Effects of probiotic *lactobacilli* and *bifidobacteria* on frequency and duration of antibiotic-associated diarrhoea during *H. pylori* eradication (De Vrese et al., 2003)

Probiotics & Lactose Intolerance

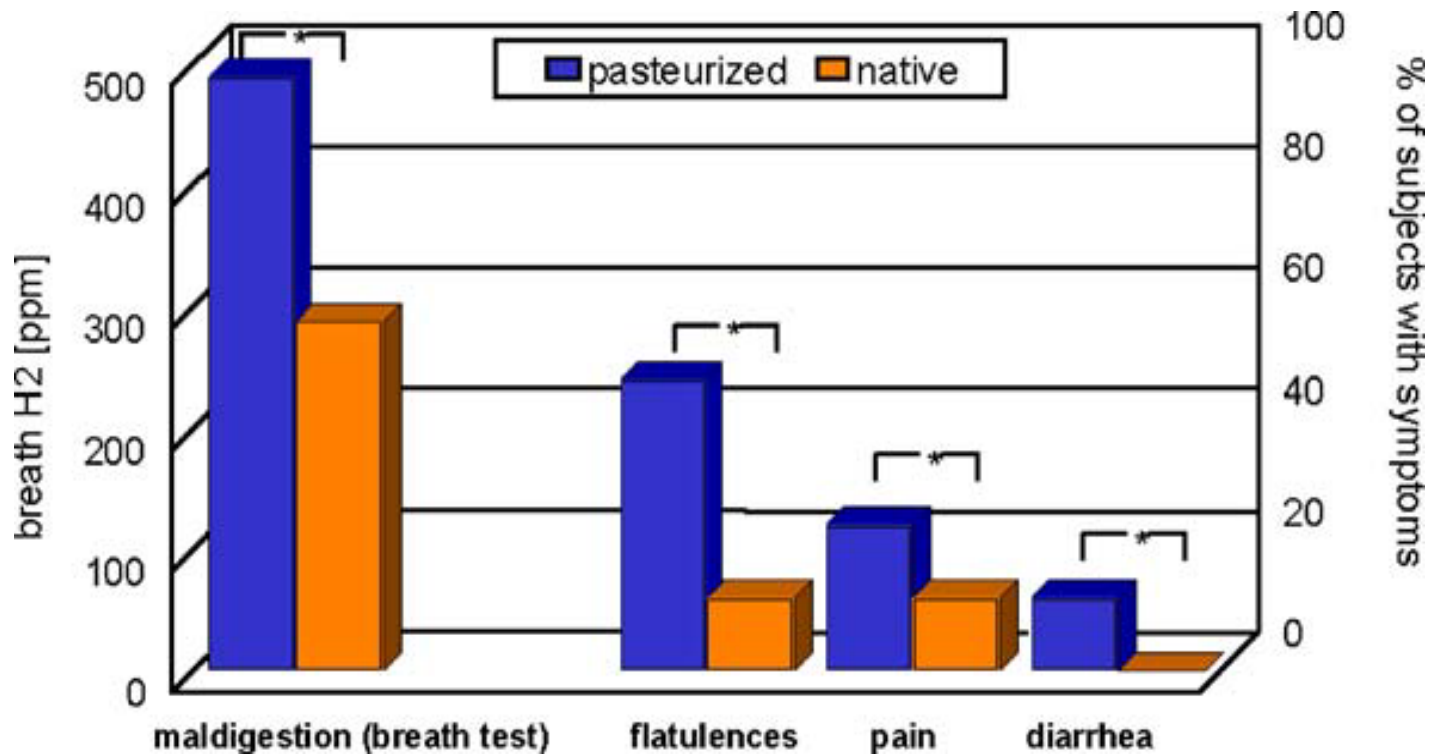
Action of bacterial β -galactosidase on lactose



Relief from Lactose Indigestion

Streptococcus thermophilus and ***L. delbrueckii* subsp. *bulgaricus*** improve lactose digestion and reduce symptoms related to lactose intolerance

Case Study



Effect of fermented milk with live or heat-killed lactobacilli on lactose Malabsorption (breath H₂) and clinical symptoms in ten healthy African and South-East Asian nurses consuming pasteurized or native fermented milk (De Vrese et al., 2001)

Probiotics & Urogenital Tract Disorders

- Production of antimicrobial substances
- Competition for adhesion sites
- Competitive exclusion of pathogens



Relief from Urogenital Infection